These three types of links are explained below and represented in Figure 1. They all follow the same form  for a continuous cdf Φ .

*Logit*. Logit link function is the most widely used function for Proportional Odds Models. The logit link is shown in [1].



or what is the same

 (1)

Probit. Probit link function is the inverse of the standard normal cummulative distribution function (cdf) Φ. Its expression is shown in 2.



  (2)

or what is the same

 (2)

Complementary log-log. Like the logit and the probit transformation, the complementary log-log transformation takes a response that is restricted to the (0,1) interval and converts it into something in (−infinito,+infinito) interval. Complementary log-log expression is shown in 3.





Logit and probit links are symmetric, that is



This means that the response curve for has a symmetric appearance about the point  and so has the same rate for approaching 0 as well as for approaching 1.

i) If we define  , we have to



while

 q.e.d.

ii) If we define



then



and



de donde



from where

 q.e.d.

Unlike logit and probit the complementary log-log model is asymmetrical, it is frequently used when the probability of an event is very small or very large. When the data given is not symmetric in the [0,1] interval and increase slowly at small to moderate value but increases sharply near 1. The logit and probit models are inappropriate. However, in this situation, the complementary log-log model might give a satisfied answer.